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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,797	10/29/2001	Arthur L. Cleary	3128.1001-001	9380

21005 7590 09/22/2004

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.
530 VIRGINIA ROAD
P.O. BOX 9133
CONCORD, MA 01742-9133

EXAMINER

HAUGLAND, SCOTT J

ART UNIT	PAPER NUMBER
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3654

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/057,797

Applicant(s)

CLEARY ET AL.

Examiner

Scott Haugland

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NW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-15, 17 and 19-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-15, 17 and 19-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/17/04 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 2, 3, 17, 19-21, and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Yraceburu et al (U.S. Patent No. 6,409,332).

Yraceburu et al discloses an apparatus and method for transporting a substrate 16 in a printing system including a transport belt 32 having a plurality of holes, a vacuum table 307 having a flat top surface (top of 323 or 318) which generates a

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vacuum with a vacuum pump motor 303, and a porous sheet 318 or 311 positioned between the belt 32 and the vacuum table 307 for restricting fluid flow between the table 307 and the belt 32 so that when a narrow or small sheet of substrate 16 is transported, the flow is restricted due to the porous sheet. The elements 323, 318 (317) can be made from a number of different materials (col. 6, lines 16-32) including "sintered materials such as of plastic or metals".

With regard to claims 2 and 17, note that Yraceburu et al discloses a level of vacuum in the claimed range at col. 6, lines 30-32.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yraceburu et al (U.S. Patent No. 6,409,332).

With regard to claims 4-6, Yraceburu et al discloses all of the claimed subject matter as set forth above except for the vacuum sensor and the CPU coupled to the vacuum sensor and vacuum pump to maintain the vacuum level constant.

Simple control systems for vacuum pump systems including a vacuum sensor and CPU designed to control the motor of the vacuum pump to provide a constant vacuum pressure are well known in the art.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Yraceburu et al with a simple control system including a vacuum sensor and CPU to control the vacuum pump motor to maintain the vacuum constant in the vacuum table 307 as is well known in the art.

With regard to claims 7-9 and 12-13, Yraceburu et al does not disclose that the transport belt is made from woven polyester or polyurethane having a thickness of about 0.09 inch or stainless steel with a thickness of about 0.008 inch.

Vacuum transport belts being made of woven polyester and polyurethane and stainless steel are well known in the art for their durability and long life.

It would have been obvious to one having ordinary skill in the art to provide Yraceburu et al with a vacuum transport belt made of woven polyester, polyurethane, or stainless steel and having a thickness of about 0.09 inch or 0.008 inch, respectively, because of their well known durability and long life.

With regard to claims 10 and 11, the holes in transport belt 32 appear to be "about" 0.1 inch in diameter and spaced "about" 1 inch since they would be compatible with the platen holes. Assuming they are not, the claimed dimensions would have been obvious since it would have been within the level of skill of an ordinary artisan to arrive at these dimensions to adapt the apparatus for a particular printer application as suggested by Yraceburu et al at col. 4, lines 11-39.

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With regard to claims 14-15, Yraceburu et al does not disclose that the porous sheet 317 is made specifically out of sintered, porous polyethylene having a thickness of about 0.5 inch. Yraceburu et al does disclose that the porous sheet 317 can be made from a number of different materials (col. 6, lines 16-32) including "sintered materials such as of plastic or metals". Polyethylene is well known for its durability and ease of manufacture.

It would have been obvious to one of ordinary skill in the art to provide Yraceburu et al with a porous sheet made out of sintered, porous polyethylene having a thickness of about 0.5 inch because of its durability and ease of manufacture and its ability to act as a filter in accordance with the specification of Yraceburu et al.

Claims 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yraceburu et al as applied to claims 21 and 23 above, and further in view of Ju (U.S. Patent No. 5,806,992).

Yraceburu et al does not disclose an indicator that detects the thickness of the substrate.

Ju teaches providing an ink jet printing system for printing on a substrate with a substrate thickness detector 128, 136, 136, 140 that provides a signal used to adjust a gap between a print head and a platen so that the proper spacing is maintained between the head and substrate during printing.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Yraceburu et al with an indicator that detects the

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thickness of the substrate as taught by Ju to maintain the proper gap between the substrate and print head.

Response to Arguments

Applicants' arguments filed 6/17/04 have been fully considered but they are not persuasive.

Applicants argue that Yraceburu et al does not disclose a vacuum table having a flat top, a thin substantially porous sheet disposed over the top surface of the vacuum table, and a moveable transport belt disposed over the top surface of the porous sheet. However, the layer 323 of lid-filter 317 Yraceburu is seen to read on the claimed top of the vacuum table. Alternatively, the entire lid-filter 317 reads on the top of the vacuum table. The upper layer 318 reads on the claimed porous sheet. Alternatively, platen 311 is in the form of a relatively thin sheet and reads on the porous sheet.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bennet et al and Mimura et al are cited to further show printing substrate thickness detectors.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Haugland whose telephone number is (703) 305-6498. The examiner can normally be reached on Monday - Thursday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathy Matecki can be reached on (703) 308-2688. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


sjh
9/14/04


EILEEN D. LILLIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600